

REMARKS

Applicant has cancelled claim 2 and has amended claim 1 to include the features of cancelled claim 2 and to further clarify non-obvious patentable features of the claimed refrigerating machine oil. The claim language of amended claim is supported by as-filed specification and original claims. No new matter has been introduced.

The Applicant has amended claim 1 to correct the cited informalities, rendering the objection thereto moot. The Applicant also has amended claim 3 to remove minor informalities.

The Applicant respectfully traverses the 35 U.S.C. § 102(b) rejection of claim 1 over Kunihiro et al. (U.S. Patent No. 4,521,296) ("Kunihiro").

In order to properly establish that Kunihiro anticipates claim 1 under 35 U.S.C. § 102, each and every element of claim 1 must be disclosed, either expressly or under principles of inherency, in Kunihiro. M.P.E.P. § 2131, 8th Ed., Rev. 7 (July, 2008).

Amended claim 1 recites a refrigerating machine oil comprising a mineral oil wherein a nitrogen content of the mineral oil is no more than 50 ppm by mass, a percentage of aromatic ring structure(%C_A) in the mineral oil is from 5 to 25, and a sulfur content in the mineral oil is no more than 150 ppm by mass.

Kunihiro fails to disclose or suggest at least a sulfur content in a mineral oil being no more than 150 ppm by mass. Kunihiro instead discloses in Table 2 at col. 7-10, sulfur contents of all of Examples 1-18 being more than 0.1 wt %, i.e., 1000 ppm. Failing a disclosure of at least the above element, Kunihiro does not anticipate amended claim 1.

The Applicant respectfully traverses the 35 U.S.C. § 103(a) rejection of claims 1-3 over Shimomura et al. (U.S. Patent No. 6,231,782) ("Shimomura") and the 35 U.S.C. § 103(a) rejection of claims 1 and 2 over Cohen et al. (U.S. Patent No. 6,736,991) ("Cohen").

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. M.P.E.P. § 2141.02. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. M.P.E.P. § 2141.02. Moreover, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. M.P.E.P. § 2144.05.

Shimomura, in viewed as a whole, does not suggest the claimed range, i.e., 5-25 %, of %C_A in amended claim 1. Shimomura instead discloses at col. 15, lines 22-24, a base oil 3 having 0 %C_A. Although Shimomura discloses at col. 2, line 56-col. 3, line 3, refined mineral oils obtained by a refining process, Shimomura does not disclose any range of either nitrogen or sulfur in the refined mineral oil, and thus does not disclose or suggest a range of nitrogen or sulfur overlapping or falling within the claimed range of nitrogen and sulfur recited in the present claims.

Moreover, the present specification discloses at pages 48-50 and Table 1 that examples of the claimed refrigerating machine oil with a sulfur content no more than 150 ppm, e.g., examples 1 and 2 of Table 1, show an unexpected result, i.e., superior stability compared to an oil with a sulfur content more than 150 ppm, e.g., example 3 of

Table 1 having a sulfur content of 200 ppm. Shimomura, in contrast, discloses at col. 12, lines 7-58, incorporating a sulfur- containing additive into the refrigerating machine oil to improve the wear resistance.

With respect to the rejection of claims 1 and 2 over Cohen, Cohen does not suggest the claimed range, i.e., no more than 150 ppm, of sulfur in amended claim 1. Cohen instead discloses, e.g., in Table 1 at col. 3, examples of refrigeration lubricants with sulfur contents of 200 ppm and 300 ppm.

In view of the above remarks, amended claim 1 is not obvious over either Shimomura or Cohen. Claims 2 and 3 depend from claim 1, and incorporate all of the elements of amended claim 1. Claims 2 and 3, therefore, are not obvious over the cited references at least due to their dependencies from amended claim 1.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application, withdrawal of the rejections, and timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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